JUNE 1958

THIRTY FIVE CENTS

MONTHLY REVIEW

AN INDEPENDENT SOCIALIST MAGAZINE

CREEPING STAGNATION

THE EDITORS

VOL. 10

2

SOVIET HIGHER EDUCATION

ALVIN C. EURICH

Kepler and Eniwetok: The Evolution of the Elements

PHILIP MORRISON

EDITORS . . . LEO HUBERMAN . . . PAUL M. SWEEZY

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MONTHLY REVIEW: Published monthly and copyright, 1958, by Monthly Review, Inc.
EDITORIAL AND BUSINESS: 218 West 10th Street, New York 14, New York.
Telephone: ORegon 5-6939.
MAILING ADDRESS: 66 Barrow Street, New York 14, New York.
Address ALL communications to 66 Barrow Street.
SUBSCRIPTION PRICE: One year—$4; two years—$7.
By 1st class mail—United States $6; everywhere else $7.
By air mail—No. America $8; So. America $13; Europe $17; Asia $24.
EDITORS: Leo Huberman and Paul M. Sweezy.

NOTES FROM THE EDITORS

This is the last chance we will have to remind you that Ann Braden's book *The Wall Between* will be on sale at the special prepublication price of $3 until July 14. If you order now it will be delivered immediately. Please read on the back cover excerpts from comments on *The Wall Between* by a number of distinguished people who have read the book in proof. This book, we are more than ever convinced, can become a powerful weapon in the struggle for racial equality in the United States, but whether it does or not depends very largely on your buying it and seeing that it reaches the widest possible readership.

(*continued on inside back cover*)

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CREEPING STAGNATION

If we date depressions by the year in which they begin, we are now (early May) in the tenth month of the depression of 1957. How much worse will it get? When will the recovery come? What sort of a recovery will it be?

We can seek answers to these questions in two ways—by examining past history and by analyzing present conditions. Let us try both.

In terms of America's historical experience, the most ominous fact is that we have reached a point in time just over a decade since the end of a major war. During the last hundred years the United States has been involved in three major wars. What happened after the first two we know: the record is there for everyone to see. The Civil War was followed by a great boom which lasted just under ten years. Then came a crisis and the longest and deepest depression the country had ever experienced. World War I was followed by another great boom which again lasted just about ten years. And the aftermath was again the same, another crash and a depression which surpassed in severity even that of the 1870s.*

The fact that it happened twice before does not prove that it will happen again, of course. But it strongly points to the possibility, and it indicates the desirability of a closer look at what happened during the boom decades following the three major wars. If the pattern of the most recent postwar boom has been similar to that of the earlier postwar booms, there will naturally be a stronger case for anticipating a similar depression pattern to follow.

Comparison of Two Postwar Booms

Lack of comparable statistics prevents any detailed comparison of the last ten years with the post-Civil War decade, but this is not so of the 1920s. Perhaps the best single indicator of the health of the

* For a long time it was fashionable in some quarters to maintain that the greater severity of the depression of the 1930s was an illusion fostered by the more vivid memories of the recent past. Unfortunately for this view, the statistics fully confirm the memories: the depression of the 1930s was far and away the worst in American history. See the detailed study by I. O. Scott, Jr., "Comparison of the Depressions of 1873 and 1929," *American Economic Review,* September 1952.

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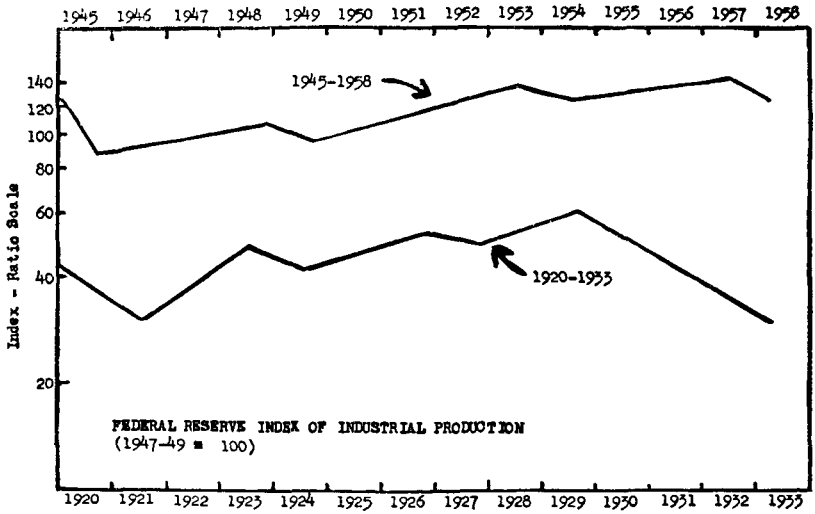
economy is the index of industrial production which goes back to 1919. The accompanying chart shows the course of this index from 1920 to 1933 (lower line) and from 1945 to 1958 (upper line). The points charted are the approximate peaks and troughs of the clearly



marked economic fluctuations of the two periods—except of course for the last point in 1958 which is simply the latest available at the moment of writing.*

Even a cursory inspection of this chart will show that in form the pattern of the two booms has been remarkably similar. A sharp collapse at the end of the war was in each case followed by the same number of alternate expansions and recessions. Clearly, the downward phase which we are now in corresponds to the Great Depression of 1929.

It will be noted, however, that the expansions were longer and the contractions shorter after World War II than after World War I: not including the Great Depression, the expansions were nearly 50 percent longer and the contractions nearly a third shorter. Or, to put the point another way, a much larger proportion of the more recent period has been boom and a much smaller proportion recession than was true during the 1920s. If we assume that a similar relationship

* The "ratio scale" used in this chart means that the same distance up or down anywhere on the chart represents an equal *percentage* change. Thus the distance from 20 to 40 is the same as that from 40 to 80 or from 60 to 120.

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will continue to hold, we should of course expect the present depression to be a good deal more severe than those of 1948 and 1953 but a good deal less severe than that of 1929.

So much, then, for the historical record. It points to the probability of a major slump but does not suggest the likelihood that the severity of the Great Depression will be approached, let alone surpassed.

Depressive Forces

Turning now to current conditions, we can make a rough comparison of the factors which are tending to depress the economy further and those which are acting in the opposite direction. The depressive forces, in order of importance, are: liquidation of business inventories; decline in business investment; decline in consumption; and decline in foreign investment.

By far the most powerful depressive force so far has been the liquidation of business inventories which took place at a rate of $9 billion per annum during the first quarter of 1958. Having overbought in the previous upswing, businessmen have been cutting back on new orders and drawing on accumulated stocks in their warehouses. It is obvious enough that this cannot go on forever, and when it stops a renewed flow of orders to fulfill the requirements of current production will become a sustaining force. There is no reason, however, to assume that inventory liquidation has come to an end as yet. The latest available figures show that sales have been and still are declining faster than inventories; so that in relation to sales, inventories are actually higher today than they were at the beginning of the depression. It may be many months still before a reasonably stable balance is reached, and at what level this will take place depends very much on what is happening to sales for other reasons. Meanwhile, inventory liquidation can continue to be a depressive force and to drag consumption down with it.

The next most powerful depressive force, and in the longer run a much more important one, has been the decline in business investment in plant and equipment. Department of Commerce figures show that this reached a peak rate of about $38 billion per annum in the third quarter of 1957 and has declined to under $33 billion by the present (second) quarter of 1958. The latest McGraw-Hill survey of business intentions (*Business Week,* April 19) indicates that the decline will continue, though at a more moderate rate, not only during the remainder of the year but through 1961. Here is the way the McGraw-Hill figures look (they are not quite the same as the

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Department of Commerce figures, even for 1957):

CAPITAL SPENDING
(billions of dollars)

	1957	1958	1959	1960	1961
	Actual	Planned	Preliminary Plans		
All Business	38.4	34.0	31.3	30.6	29.7

There is a possibility, however, that these figures may be much too optimistic. This year for the first time the McGraw-Hill survey included a question as to what minimum capital spending might be on the assumption of a business decline from the current level. Here is the summary of the replies:

> The minimum estimates dash the hopes of those who have supposed that widespread fluctuations in business investment—the historic bane of economic stability—were a thing of the past. Companies reported that, as a group, they might spend as little as $22 billion a year—compared with the 1957 record of almost $39 billion—if business did continue dropping .

We shall return later to the longer-run significance of these findings; for the moment, it suffices to point out that business investment is almost certain to remain a depressive force for some time to come.

Consumption has also been a depressive force, declining from the peak rate of $283.6 billion per annum in the third quarter of 1957 to $281.2 billion in the first quarter of 1958. Actually, this is a very small drop considering the sharp increase in unemployment and short time during that period, the main reason being a substantial parallel increase in unemployment compensation and other forms of social security payments. Indications are that consumption is still holding up remarkably well, but there is no guarantee that it will continue to do so and there would be nothing illogical or surprising about its going into a more serious decline. Meanwhile, within the category of consumption people are spending less on durables (automobiles, appliances, and the like) and more on nondurables (especially on food, the price of which continues to rise).* The high level

* The continued rise in food prices is said to be due partly to the freezing of southern crops during the winter season, and partly to meat shortages which in turn can be traced to past and present price relationships between cattle and hogs on the one hand and feed on the other. The problem is complicated and need not be discussed here, but it may be good news to readers that vegetables and fruit prices are supposed to be coming down by the time this is in print and meat prices by fall.

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of consumer and mortgage debt is obviously a serious potential threat to consumption, as is the large amount of life insurance people have committed themselves to maintain. If wage and salary income go on declining, more and more will tend to be absorbed in making these fixed payments and less and less will be left over for current spending.

Housing, which is officially classified as part of investment rather than consumption, has not changed much (on a seasonally adjusted basis) since the onset of the depression—and this despite strong government measures to make mortgage money cheaper and easier to get. Some observers seem to expect housing to become a powerful sustaining force in the months immediately ahead, but so far there is little in the record to support such a hope.

One final depressive force which should be mentioned for completeness is foreign investment which was very high early in 1957—largely because of the closing of the Suez Canal—and has been declining ever since. Relatively speaking, this is not a large item (the total for 1957 was $3.2 billion and the annual rate for the first quarter of this year was $1.5 billion), but in a delicately balanced situation it may nevertheless acquire considerable importance.

Expansive Force

All of which leaves government as the sole expansive force during the period since the depression began. What are called "transfer payments" (mostly unemployment and social security benefits) rose by about $2 billion (annual rate) between last summer and March, while government purchases of goods and services went up a little more than $1 billion. These increases in government spending served to check the decline of consumption and to maintain new construction at an unchanged level. In other words, they kept the slump from being more severe but were obviously not large enough to bring it to a halt. Reports from Washington indicate that there has recently been a stepping up of the rate of increase of government spending and that by the end of the year the annual rate can be expected to be some $5 billion above the first quarter. There is nothing definite about this, however, and it seems evident that what happens to government spending will depend to a considerable extent on the course of the depression from here on. About all we can say with assurance is that government will continue to be an expansive rather than a depressive force. If there should be a tax cut as well as an increase in government spending, this of course would strengthen the government's expansionary role.

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Other Factors

Before attempting to put the various pieces together to form an overall estimate of the probable course of the economy in the near future, we should note a number of factors which can be expected to play a part in determining the shape of things to come.

(1) *Seasonal influences.* The normal spring pick-up in outdoor trades has, as usual, served to disguise more basic trends and has given rise to talk about the depression's having "bottomed out," and the like. Total unemployment, for example, has changed little since the beginning of spring, and this seems to have produced a considerable head of confidence in both Washington and Wall Street, deferring anti-depression measures in the one case and touching off a speculative stock-market boom in the other. Such optimism, however, is pretty obviously of an ephemeral nature and seems unlikely to survive the increase in unemployment which is certain to follow the ending of the school year—at that time the figure is likely to rise by more than a million in one sharp jump. When the letdown comes, pessimism is likely to be of a darker hue than it otherwise would have been, and this in turn may become a serious depressive force.

(2) *Profits.* Since businessmen's actions with regard to inventory liquidation and capital spending will be largely influenced by what happens to profits, it is significant to note that all indications point to sharp and continuing declines so far this year. The First National City Bank's compilation of net income for 801 large corporations for the first quarter shows a decline of 31 percent as compared to the first quarter of 1957 and of no less than 23 percent as compared to the previous three-month period, and every day's financial pages bring ample confirmation that the decline is still continuing.

(3) *Politics.* The profits figures should be enough to dispose of the theory that the big capitalists wanted this depression and "planned it that way." Nevertheless, now that it is here they and their political henchmen in Washington seem to be in no hurry to do anything about it. The reasons are doubtless varied: labor's bargaining power is weakened; depression is a time when the big corporations benefit at the expense of the smaller ones; the fear of inflation is partly genuine, at least in some quarters. But it is also true that governmental policy is paralyzed by deep divisions in the American ruling class, divisions which are allowed full political expression by a political system originally designed to inhibit rather than facilitate government action. "Politics as usual," which is all we have had so far, seem to be incapable of generating anything approaching a large-scale, co-

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ordinated attack on the depression; and a departure from politics as usual seems to be impossible unless or until the depression becomes much more serious. In this respect, the pattern of 1929-1932 is repeating itself with remarkable fidelity. This is not to say that the government's role has been or is likely to be the same as in the Great Depression: the fact is that the famous "automatic stabilizers" introduced during the New Deal period have been working, which is why there has been no collapse of consumption, no agricultural crises, no financial panics. But it *is* to say that so far as any positive measures to overcome the depression are concerned, the Eisenhower administration has shown itself to be no more intelligent or imaginative than the Hoover administration three decades earlier—and doubtless for the same basic reasons.

The Short-Run Outlook

The foregoing analysis of current conditions leads to no clear-cut conclusions, of course. There are too many variables and unknowns to permit the formulation of neat predictions. And yet we can say with considerable confidence that there is no good reason for expecting an early recovery from the present slump, and there is a possibility of further serious declines. Barring a drastic reversal of government policy, about the best that can be hoped for is a tapering off of inventory liquidation, which, together with more or less "automatic" increases in government outlays, might be expected to counterbalance continuing declines in capital spending, foreign investment, and consumption. A "bottoming out," in other words, is not impossible—even an actual upturn. But in the absence of other developments, it would probably be short lived and give way to further declines once the effects of the inventory stimulation had worn off. Abortive recoveries of this sort are familiar to students of business cycles, and it is well to remember that one occurred at about this stage of the Great Depression.*

A more likely course of development, however, would seem to be a continuation of inventory liquidation, a sharper decline in consumption than has yet occurred, and progressive cuts in capital spending programs as the full seriousness of the situation gradually dawns on businessmen.

But in either case no end is in sight. An analysis of current con-

* "That a depression of unusual severity was developing did not become apparent until the second half of 1930. After the sharp decline of the last quarter of 1929 there was a slight, abortive recovery in the early months of 1930. . . . " R. A. Gordon, *Business Fluctuations,* p. 391.

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ditions fully confirms the indications of the historical record that this is a major depression, not a mere jog in the upward curve of a new and reformed capitalism.

Looking Farther Ahead

A genuine upturn will, of course, come sooner or later: the phases of the business cycle follow each other as regularly as the phases of the moon. But what kind of a recovery will it be? Twenty years ago, Professor Alvin Hansen of Harvard, America's leading Keynesian economist, published a book entitled "Full Recovery or Stagnation?" The question is as pertinent today as it was then.

For reasons which we have often set forth in these pages, the answer to this question depends very largely on the probable course of private investment. At full employment levels, a monopoly capitalist economy generates enormous profits, and it *must* invest a large part of these profits in order to keep going. However, the actual decisions about how much to invest are made by thousands of individual private enterprises, not by the system as a whole. If they decide to reduce the rate of investment, the level of economic activity will slow down, unemployment will appear, and profits will be reduced until the amount available for investment has been reduced to what can find outlets.

It is in this connection that the findings of the McGraw-Hill survey referred to above acquire crucial significance. They show that on the best estimate, business outlays for plant and equipment are expected to fall steadily through 1961 to little more than three quarters of the 1957 level. On the worst estimate, they would sink to well under 60 percent of the 1957 level. Behind these figures lies the massive and ubiquitous fact of excess capacity. More than a decade of overinvestment, financed by the swollen profits of war and war preparations, spurred by all manner of government subsidies, topped off by the speculative splurge 1955-1956, has produced a condition of surfeit which is likely to last for years to come.* From now on, less and less investment will be devoted to expansion, more and more to replacing and modernizing existing equipment.

But what about new processes and new products, it may be asked? May they not come to the rescue by providing the needed

* The Brookings Institution's well-known study *America's Capacity to Produce* estimated that before the crash in 1929 the American economy was operating at 80 percent of capacity. According to the McGraw-Hill survey, "By the end of 1957, manufacturers were operating at an average of 78 percent of capacity." An ominous parallel indeed.

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investment outlets? Some Big Business analysts seem to hope so:

> The best approach to the relief of unemployment is to stimulate business spending instead of consumption spending. . . .
> The objection is raised that goods and plant capacity are already abundant. This is true with most goods of familiar types. But we need funds and imaginative energy released to design and manufacture products now unknown as a basis for a progressive economy and world leadership. The capacity to produce horse-drawn buggies was abundant when the Model T Ford was invented. (*First National City Bank Monthly Letter,* April 1958, p. 44.)

We might pause to admire the ingenious logic of a system which proposes to base a claim to world leadership on the production of unknown products at a time when most of the world is suffering from acute shortages of very well known products. But the issue here is not whether new products provide a *good* solution to the problem but whether they provide any solution at all. And the answer clearly is that they do not. Not, to be sure, because it is *inconceivable* that they should provide the solution, but very simply because new products and new processes have been most generously allowed for in the estimates of the McGraw-Hill survey. Expenditures on research and development which amounted to $7.3 billion in 1957 are expected to be $8.3 billion this year and to rise to $9.9 billion by 1961. "New technology," says the survey, "is, in fact, the key to industry's plans for increasing sales. In manufacturing, companies expect that 12 percent of 1961 sales will be in new products not made in 1957." But whatever investment may be needed is included in the declining totals which businessmen are planning for the years ahead. Probably the most rapid rate of technological progress in capitalist history is proving wholly incapable of providing the investment outlets the system so urgently needs.

Add it all up and one can only conclude that when the upturn comes it will be weak and incomplete. What lies ahead is not full recovery but stagnation.

Actually, this understates the case. There is an important sense in which stagnation has been stealing up on us for a long time. To quote Leon Keyserling, former chairman of the Council of Economic Advisers:

> But this recession of today . . . is only the inevitable outcome of a much longer . . . adverse trend. An overall economic expansion of about 4.5 percent a year is essential in the American

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> economy, to make new jobs for the growing labor force plus those displaced by technological progress. On the average during the period 1947-1953, we exceeded this annual growth rate. But the average annual growth rate in real terms slowed down to little better than 2.5 percent in 1953-1957, to only about 2 percent in 1957. . . . The result is that the annual rate of our total production is now more than $32 billion below full production. . . . During the past five years as a whole, we have lost more than $78 billion worth of potential production through departures from full production, and lost about 8.5 million man-years of potential job opportunity through departures from full employment. ("The Economy in '58," *The New Republic,* January 13, 1958.)

The exact figures here may be disputed, but not the general propositions. By summer when the annual addition to the labor force emerges from schools and colleges, we shall be nearer $50 billion than $32 billion below full production, and from then on the requirements of full production will rise by an expanding amount, beginning at about $20 billion a year. With private investment falling and consumers already overloaded with debt, what is to generate these enormous increments of demand? The only candidate for the job, of course, is government.

We need not doubt that government outlays will steadily rise in the years to come, but will they rise enough to generate additional demand on the scale required to prevent the economy from returning to a state of chronic underemployment such as prevailed during the whole decade of the 30s, expansion and contraction phases of the business cycle both included? So far as present indications go, the answer can only be in the negative. Here, for example, is a carefully considered estimate of the probable course of federal expenditures by Mr. Carrol Shanks, president of the Prudential Insurance Company and one of the more intelligent and enlightened representatives of the United States ruling class:

> No one knows at this stage just how much money will be required to provide an adequate defense for the United States and for the free world. But responsible estimates indicate that defense expenditures may have to be increased by $2 billion cumulatively per year during the next five years. Non-defense spending—which includes federal grants for the highway program and urban renewal, federal assistance to education, losses under the farm price program, reclamation projects, and various other public works, in addition to all the normal costs of running

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the government—is likely to increase by a minimum of a billion dollars a year.

This means that total federal government expenditures will probably rise by at least $3 billion a year cumulatively over the coming five years. I am not here evaluating the desirability or necessity of such an increase, but simply stating that it is likely to occur. ("Can Government Stabilize the Economy?" Address before the Executives' Club of Chicago, March 21, 1958.)

To this should be added the increase of state and local expenditures which have been running between $2 and $3 billion in recent years and which we may estimate at the higher of the two figures for the years immediately ahead.

The annual increase of government spending now in prospect, then, comes to something like $6 billion. And manifestly it is nowhere near enough.

We hear a great deal these days about creeping inflation and creeping socialism. The former is a receding threat, likely to recur only in the event of new military adventures on the scale of Korea. The latter, unfortunately, has never yet been anything but a pure figment of the ruling class imagination. The real problem facing the country is of a different sort, though very familiar to us from our experience of the 1930s. It can appropriately be called creeping stagnation.

(May 17, 1958)

The last cause of all real crises always remains the poverty and restricted consumption of the masses as compared to the tendency of capitalist production to develop the productive forces in such a way that only the absolute power of consumption of the entire society would be their limit.

—Karl Marx

The epochs in which capitalist production exerts all its forces are always periods of overproduction, because the forces of production can never be utilized beyond the point at which surplus value can be not only produced but also realized; but the sale of commodities, the realization of the commodity capital and hence also of the surplus value, is limited not only by the consumption requirements of society in general, but by the consumption requirements of a society in which the great majority are poor and must always remain poor.

—Karl Marx

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THE WORLD OF SCIENCE

by Philip Morrison

KEPLER AND ENIWETOK: THE EVOLUTION OF THE ELEMENTS

In November of 1952, the first great million-ton explosion of a hydrogen bomb took place at Eniwetok atoll. The astonished sailors of the test party were too filled with the extraordinary sight of the vanishing reef and the feel of that distant hot glow to keep mum: the newspapers for weeks carried rumors of the test in spite of the security officers of the AEC. Now most tests of such weapons are mere engineering routines, product developments, or military simulations. Their certain, if deferred, toll of life and health is to be charged wholly against those cruel ledgers. But these pioneer tests, called Ivy in the code of the AEC, were something new. They represented the very first use of the fission-fusion principle, the "dirty" megaton explosion which forms the basis of power strategy in this unhappy time. They turned out not only to found the grim technology of fission-fusion (outmatched by the Soviet tests of the late summer of 1953, in which apparently the first fission-fusion device of deliverable dimensions and nature was detonated) but to have had a curious scientific by-product. It is of that by-product I want to tell. Its story will illuminate the unity of science today, and demonstrate once again the paradox of man's reasoned power over natural forces in a society still half-anarchic.

Fifty years ago, the imaginative H. G. Wells published perhaps his most brilliant novel, *Tono-Bungay,* a book whose pictures of Edwardian business puffery, and of the subjective position of the man of science in business enterprise, still glow with life. He conjured up a picaresque effort to save a great failing firm by a wild gamble, a trip to the African coast to sack a mysterious dump of ore which his clever engineer realized was wildly radioactive. A sample was given to a leading commercial analyst for assay, and that worthy had the excruciating experience of finding two new chemical elements in a sample of unknown origin, given to him for confidential analysis, hence barring him from publication and credit. Once again life mirrored art. For just this happened in 1953 and 1954 to a group of radiochemists of the AEC.

While the great mushroom cloud from the Mike explosion of

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the Ivy series floated downwind, the little pilotless drone planes, and a couple of intrepid pilots at higher altitude, flew back and forth across the cloud, taking samples of the fiercely radioactive dust into their air scoops. Landing at strips like the one on war-scarred palmless Kwajalein, a few hundred miles away, these planes brought their samples back. As is the practice in every such test, most particularly in this novel one, the samples were rushed by air back stateside. From a careful analysis of the radioactivity in such samples, the skilled radiochemist can puzzle out much of the nature of the nuclear explosion. Three big groups stood ready to work over the material: men at the Radiation Laboratory of the University of California at Berkeley; at Los Alamos in New Mexico, where the bomb had been designed and constructed; and at the third AEC laboratory concerned, the Argonne Laboratory near Chicago.

The data they sought were perishable, for the decay which is radioactivity went on steadily in the sample, and it can never be reversed. Through the last months of 1952 they worked against time, in close telephonic contact. By now it was clear to them that the great explosion had made not only what they had expected, but various unfamiliar isotopes which they had not before seen. This bomb was the very first one in which a large amount of normal uranium had been subjected to such an enormous burst of neutrons both from the fusion reaction and from the fissions induced in the uranium itself. As spring came, they became convinced that in the debris of the Mike explosion, they had found two wholly new elements, numbers 99 and 100 of that muster which begins with hydrogen at position 1 and finds uranium at 92, the highest known in nature. Among these scientists were some of the very men who had since 1939 or 1940 added the elements from 93 to 98 to the list, in the alchemical processes of the cyclotron and the fission chain reactor. Still they were excited. The round number of 100 has a certain magic, and to find two new elements at once in so strange a sample was not commonplace, even to these seasoned explorers. Now the privilege of naming and describing two more of the species of the atoms was open to them.

But the privilege had to be long delayed. For now that irrational and pervasive secrecy dear to the AEC interposed its powerful obstruction. To announce the very existence of such new elements would reveal to the knowing world what it was indeed busy guessing: that the Ivy shot had been a fission-fusion-fission explosion. This would have violated the deep taboos; it might alert that Rival Power (who was in the same year to exploit—unaided by revelations—the very same principle even more cleverly). The chemists would simply

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have to defer the public fruits of their discovery. Two elements, two of the building blocks of nature, went onto the secret list.

There was a way out, however. The sudden burst of neutrons in the new bomb had no counterpart. But the great chain reactors of the AEC make neutrons in plenty, more slowly, but over years and not microseconds. In the most intense of these neutron sources, the Materials Testing Reactor at Arco, Idaho, the Berkeley group had long ago placed samples of metal foil, to let the transmutation occur. Start with say plutonium, which can be had by the pound, itself coming from neutrons' striking the tons of uranium kept in the great reactors. Then after a year or so, extract the next element or two built up in tiny amounts from the transmutation of the plutonium. Re-expose these new elements in turn, and wait for the next stage. The limited neutron supply of any reactor means a long wait, and a steadily diminishing yield of the elements as the number of stages increases. But the chemists are skillful and patient; they can work with even a few atoms of the right kind, an amount far smaller than the senses can detect, and outside of all normal experience. By early 1954, they had produced enough of elements 99 and 100 in the slow, steady mode to publish the result. Even for the AEC there was no secret about a steady neutron flux.

Of what happened here no documents yet published tell the story. But it is quite easy to reconstruct. More than a year after the real discovery, the Berkeley group first can tell of the new elements. Inside the AEC there must have been a hot discussion. Could these people claim for themselves the discovery which really belonged to all? The requirements of secrecy had given them the look of the discoverers, but they themselves knew the real history. They wanted no such artificial recognition; their letter, which was in fact the first publication of the existence and properties of the new elements, made no undue claim. In it they disclaimed discovery, and hoped that the question of discovery would not be prejudiced by the publication, since the properties were known a year or more before, but not published. They assigned no name to the elements, because the right of naming was not theirs. No such announcement had been seen since the somehow similar days when the great seventeenth-century scientists published anagrams of their findings to forestall the theft of their fame. Such is the uneasy life of science in secrecy.

On June 20, 1955, the sixteen codiscoverers at last transmitted their findings, now three years old, to the scientific public. In a world well-armed with dirty bombs, the secret was not worth keeping. The elements were named gracefully enough for the two great men

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of physics whose deaths had come between the exciting days of December 1952, and the time of publication. Element 99 is called einsteinium, symbol E, and element 100, fermium, Fm. The wry little comedy was over.

But Mike shot of Ivy series was not yet empty of scientific value. It is all very well to discover new elements, but the bread-and-butter data of the radiochemist are of a different kind. A hundred times as frequently his search for novelty finds no new element, assigns no new name, but does find another numbered isotope of a familiar chemical element, an isotope whose properties he must seek out not chemically but with the tools of the nuclear physicist. For all the atoms of a chemical element have one and the same set of chemical properties but may differ in nuclear properties, especially in the weight of the nucleus. Hence heavy hydrogen, weight 2, and ordinary hydrogen, weight 1. Hence uranium 238 and uranium 235. The isotopes are set apart by the number which gives the weight; the element, by its name or its number in the periodic tables of old Mendelyeev. Many new isotopes were found in the Mike debris, and some of them were described in a paper sent in for publication in December, 1955, by the same teams of radiochemists.

Here we touch upon a curious feature of a growing science. When artificial radioactivity was discovered a generation ago by the Curies, there could be no doubt of the importance of the discovery. The familiar chemist's elements—carbon, phosphorus, iron—all could have radioactive isotopes. To find more was worthwhile. Soon the pattern was established. But it was still important to find useful isotopes, say the radioactive isotope of iodine, a valuable tool in diagnosis and treatment of the human metabolism of the rather rare but vital element iodine. The theorists wanted more, too, to make sure that their ideas of how nuclei behaved were correct. But by now we have a catalogue of more than a thousand radioactive isotopes, of which only a score or two are known to occur naturally. This seemed enough, and a list of a few more was not calculated to attract much interest except among the most assiduous of cataloguers. Such lists appear regularly, found with this or that technique, as additional straws in a heap of truths, already too diverse for the caring.

One of the listed isotopes collected from that mushroom fall-out was californium of mass 254, one of a dozen or so new isotopes. This one was described as showing a natural decay at such a rate that every fifty-five days, half of the sample could be observed to break up into its decay products. (After 110 days, one-quarter of your sample would be left, and so on.) This seemed routine enough. But

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far from routine it proved to be. Indeed, the fifty-five day half-life, as it is dubbed, was nothing less than the missing link in the story of the evolution of matter itself.

The long chain of argument into which this by-product of the most fearful of weapons fitted is fascinating. Men have seen a few dozen events which can be understood only as the sudden gigantic explosion of an abnormal sort of star. A star which blazes forth where none was seen before is called a new star, a *nova.* A special sort of nova, rarer than the others, much more spectacular, is called a super-nova. This class has been recognized for a couple of decades, during which time the great telescopes have seen them in a few dozen distant galaxies. One day the little fuzzy bar which is some galaxy's image on the photographic plate shows a bright spot, not there before. The spot lasts for a couple of years, dying away in time in a characteristic and by now predictable way. The spot is at first as bright as the whole of its parent galaxy, which can mean only that it is a star temporarily become some hundred million times more luminous than our stable and modest sun. In a few years it has spent the store of energy which would have been enough to last the billion-year lifetime of a normal star. Other information confirms the view that in a super-nova we see an explosion of profligate proportions.

Not all super-novae have been so dwarfed by distance. The dawn of modern science was to some extent illuminated by such an event. For the Dane Tycho Brahe in the year 1572 described a new star all Europe saw. And his young associate, the wondrous Johannes Kepler, saw just such another one in 1604. Each of these stars grew so bright that it might be spied by daylight, and nightly outshone every star in the sky for a matter of months. Both men carefully watched the new stars, and recorded for us the decline of the light of the newcomers. They did this by comparing its brightness with that of other objects: one night to Jupiter at a time when the star equalled that planet, and then to Sirius, and so on as the star dwindled out of sight. Their results can be plotted today, and the graphs which emerge have just the same shape as the photographic measures of those distant super-novae which show up, one a year or so, only on the plates of the great telescopes. The super-novae Kepler and Brahe saw belonged to our own galaxy; no one has seen a galactic super-nova since Kepler's day, though one might appear, as far as we know, at any time. A super-nova no closer than the nearest star would shine as brightly as the full moon. How much of the change in thought of that revolutionary epoch may be ascribed to the happy accident which brought new stars conspicuously into the heavens at the very

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time that the immutability of the world was being questioned by the rising new society, is a fine topic for an evening's conversation.

We know in this striking way, then, from the old and from the new astronomy, how the light of the super-nova dwindles in time. What we learn is that Kepler's curve and the latest ones from Palomar show a precisely-reproduced common feature: a long period, from a month to a year or so after the explosion, during which the light dies away in a most regular fashion, exactly like the energy from the decay of a radioactive element, and dies away moreover with a half-decay time of just fifty-five days. This is the bridge from bomb to exploding star.

It is not caprice to believe that the two phenomena are closely related. Indeed, of all the known isotopes only three have half-decay times near enough to fifty-five days to fit. Of these three, only californium 254 can be responsible. For consider that in the explosion of a star, no less than in that of a bomb, it is implausible that only one single remarkable element should be produced. Indeed, we would expect to see a great mixture of radioactive decays, as we find them in fall-out. Nevertheless, the decline of the total light curve matches very nearly that of the single isotope we chose. Why, then, did we single out californium? Here is the point which completes the inference. Californium is the *only* isotope (with anything like a few days' lifetime or more) which does not decay by the simple emission of a single particle or two, as do radium or strontium or the other familiar radioactive elements. Instead, californium 254 decays by the process of spontaneous fission. It divides into two fragments.

This cleaving, familiar in the case of uranium, is called fission. It is accompanied by a release of energy which is fifty or a hundred times greater than the ordinary sort of radioactive disintegration, since it represents such a deep-going revision of the nuclear structure. Plainly, if this substance is mixed with a number of others, the large energy released by fission will dominate over the small releases of a dozen other elements. This will remain true as long as californium 254 is about as important an ingredient of the mix as any one of the others. This odd-sounding stuff, newest isotope of an unstable element itself discovered only in the fifties, thus has unique ability to stand out from a jumble.

Whether it is the debris of an Eniwetok test or the distant debris of a stellar explosion we see, the same result occurs. A great number of unstable species of atoms are made. For the first few days, no particular element stands out; the energy release follows no special simple law. Then comes the time of californium. For a few months

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or a year or two, it dominates the others, until at last it has decayed so far that other, longer-lived elements take over, again generally without any single one standing above the rest. In the bomb, neutrons made in great number by the fusion process are added one by one in a microsecond to the atoms of the uranium with which the walls of the bomb are coated. In the star, neutrons again are made by fusion processes, and they are added in a gigantic paroxysm to the atoms of the main heavy element present, not uranium, which is rare in the world, but more likely ordinary iron. From this iron, then, the elements of the periodic table above iron are made in a couple of hundred steps, up to and beyond the end we know, certainly as far as californium and still further into the realm of elements we do not yet know, beyond 102. These are all short-lived, and some decay into products of the familiar, stable sort, typified by lead.

A wealth of supporting detail has been found to clothe the story whose skeleton is here laid out. We can be all but certain that the matter of our earth was in part the debris of a long-dwindled super-nova. The heavy elements of the earth trace their genealogy almost entirely to that giant "fall-out" six or more billion years ago. The californium has long since decayed away, but we still have uranium, for example, among the long-lived products of the various original species. It is interesting to muse about the possibility of other worlds having no legacy from any super-nova, for not all suns need have picked up such debris. Such a happy planet, without an appreciable amount of heavy elements, could well have organic life like that of our earth. No living forms seem to depend on elements any heavier than iodine. But man's history has used the heavy elements: gold for coin, lead for bullets and type, and uranium for the deadly bombs, all bequeathed us by that super-nova whose place we do not know. Without that early explosion, its products would not be found on earth. The energy of the atomic bomb, like the very substance of mercantile wealth, comes from the super-nova as surely as the energy of firewood comes in the end from the nuclear engine that is the sun. And that world without lead, gold, or uranium has in these times more than a little of the savor of paradise! That super-nova's burst was in a sense *the* original sin.

Less theologically, the story of the super-nova is only a small part, if a very exciting one, of the extraordinary unravelling of the evolution of matter which is now one of the most fruitful domains of modern physics. The whole story is not yet written, but its main motifs are becoming plain to all. They will sum up in a rather short time to a complete cosmogony for the material of our earth and sun.

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SOVIET HIGHER EDUCATION

BY ALVIN C. EURICH

The following article is the most concise authoritative account of the Soviet system of higher education we have seen anywhere. It is a summary of a talk given by Dr. Eurich to a group of Harvard alumni immediately after an extended visit to the Soviet Union, and is reprinted with permission from the publication *Harvard Today,* February 1958. Dr. Eurich, Vice President and Director of the Ford Fund for the Advancement of Education, was formerly Executive Vice President and for one year Acting President of Stanford University and was the first President of the State University of New York.—The Editors.

The University of Moscow stands as a symbol of the importance which the Russians attach to education. Geographically situated on an imposing site atop the Lenin hills on the outskirts of Moscow, the physical plant is now one of the finest, if not the best, for any university in the world. The main building towers 32 stories and has 2200 rooms. Architecturally it is typical of Moscow's new luxury apartment skyscrapers but significantly bigger.

Immediately adjacent on the right and left of the central Palace of Science are two dormitories which house about 6,000 students. Each student has a single room equipped luxuriously, by college dormitory standards, along the lines of our new Statler Hotels with beds that make up into couches during the daytime. Scattered around the campus are other buildings primarily for the scientific faculties. The philosophical and humanistic faculties are still scattered around the City of Moscow in old buildings which are to be replaced in the near future by structures to be built on the new campus.

The portion of the campus that has been completed is reputed to have cost more than three billion rubles. At the official exchange rate of four rubles for a dollar, this would be $750 million. At the current rate of exchange for tourists, 10 rubles for a dollar, the cost would be $300 million.

The Palace of Science houses libraries, museums, laboratories, auditoriums, offices, classrooms, and smaller conference rooms. The central library, as well as smaller departmental libraries, are elegantly furnished. In many rooms individual tables are provided for the students. The geological museum displays pointedly and effectively the vast and varied mineral resources of the country.

When we visited the University of Moscow last spring Rector Petrovsky reported an over-all enrollment of 23,500 students. Repre-

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sentatives from many foreign countries were evident among the students. Later in discussion with Vyacheslav Yelutin, the Minister for Higher Education, we learned that students from all capitalistic countries in the world except the United States were registered in Russian universities.

To be sure the University of Moscow is a showpiece which the Russians seek deliberately to promote in their propaganda with their own people and elsewhere throughout the world. Other Russian universities suffer greatly by comparison as far as the physical plant is concerned. However, the University of Moscow is clearly a symbol of the country's hopes to provide higher education for all who can profit from it.

University professors are in general highly paid. The professor's basic salary is 6,000 rubles per month, or at the official rate of exchange, $1,500. In addition, the professor receives extra compensation for any work he does outside of his regular university duties such as giving lectures or serving as a consultant to industry or the government. If he writes a textbook he receives 2,000 rubles for every 23 typewritten pages. As explained to us, typed pages serve as a standard because the size of printed type varies greatly from book to book.

If the professor is elected a member of the National Academy of Sciences which is open to scholars in every academic discipline, he receives another 2,500 rubles per month for life. If he moves into the next higher category which gives him the highest title of "academician," he receives 5,000 rubles per month for life, or approximately the equivalent of his base pay as a professor. The professor's total income is in the range of $35,000 to $50,000 at the official rate of exchange. In addition, he enjoys a number of other advantages. His taxes and rent for an apartment are low, all medical expanses are covered, and his children are educated through the University free of charge to him. If he has done particularly noteworthy work he is rewarded with a paid vacation for himself and his family. If he needs time to complete a book or special study, he is given a leave of absence at full pay.

In contrast the typical practicing physician, lawyer, or engineer earns not much more than half the basic pay of a professor. As the Rector of the University of Moscow explained to us, only the managers of manufacturing plants, eminent workers in scientific institutes, and large contractors would have incomes comparable to that of university professors. These financial rewards are indicative of the high value placed by the Russians on education and the means used to attract the ablest people for the teaching profession.

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The kind of education provided and the extent to which it is compulsory add to the prestige of the profession. The core of the Russian educational system is a ten-year secondary school extending from age seven to seventeen. This is now compulsory for youth in all cities or approximately 70% of the population, and is scheduled to be compulsory throughout the country by 1960. During the secondary school period the students are required to complete ten years of Russian language and literature, ten years of mathematics through trigonometry, five years of physics, four years of chemistry, six years of biology and botany, six years of geography, seven years of history, with emphasis upon the Soviet Union and Communist Party, one year of astronomy, and then a variety of practical subjects such as woodworking, metal-working, drawing and painting. By the end of the ten years each student must know how to drive an automobile, a truck and a tractor.

Such a heavy program means that during the ninth and tenth grades, or for ages sixteen and seventeen, the student is in class seven hours a day and is expected to study an additional five hours. The work scheduled for the students is predicated on a 12-hour day, six days a week, for ten months of the year. However, doctors and educators alike are concerned with the possible impairment in the health of secondary school pupils—particularly at the upper grades. Some of the leading educators in the country are advocating that either the length of the secondary school be increased from ten to eleven years, or the amount of work reduced.

Upon observation the Russian educational system seems to combine the thoroughness and rigidity of the old European pattern with the mass education of the United States. Off-hand, and without the benefit of detailed examination of the content of the courses, it appears that when students have completed their secondary school work they have probably reached the level of attainment at least in the sciences that our students attain after two years of college.

Beyond the secondary school, students devote a major portion of their time to a field of concentration. During the five years of what we would call undergraduate work at the university or at an institute for advanced learning, the student spends from 70% to about 80% of his time in a field of specialization. For example, we visited the Institute of Foreign Languages in Moscow, where we found 880 students spending roughly 80% of their time during a five-year period studying English. This represents the effort of Russia to prepare people to understand other cultures. Likewise, in the scientific field the degree of specialization is approximately the same.

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The prestige of education is enhanced further by the fact that students are selected very rigidly for admission to the university or an institution of higher learning. At the end of the secondary school state examinations are given for a period of an entire month extending from the middle of May to the middle of June. These examinations are oral with the exception of the five or six hour written test. The Minister of Education sends out the questions on "tickets" which are drawn by students who respond to them orally before other students. The examinations determine whether a student has completed satisfactorily his secondary school work and whether he is eligible to take examinations for admission to a university or advanced institute. Only the "gold star" students are admitted to the university without further special examinations. "Silver star" students must take examinations in the field in which they wish to specialize for advanced work and other students must take more extensive examinations covering a variety of subjects.

Quotas for each field of specialization at every university are set by the Minister for Higher Education. On the basis of Russia's five-year plan the proportion of applicants who are admitted varies from field to field. In general one out of two or three students who apply are actually admitted, whereas in a special field such as journalism at the University of Leningrad last year only one out of twenty-three applicants was admitted.

After a student is admitted the cost of his education is paid by the state. This is further evidence of the enormous importance the Russians attach to higher education for the ablest minds. The student receives a stipend the amount of which varies, depending upon his field of study and his scholarship; the higher the scholarship, the higher the stipend. Furthermore, students are exempt from military training, although in each of the universities there is considerable emphasis upon sports and the development of the physique of students.

In striking contrast with the United States, Russia has no teacher shortage, although again everywhere we went educators said they needed more teachers of higher quality. At the university level, budgetary provisions are made automatically to provide one teacher for every ten students. The great prestige and high income make teaching at the university level especially attractive so there is no need to urge students to enter this profession or to assign them authoritatively to this type of work.

The results of this rigid educational system are impressive. Of the two and a half million university or institute graduates approxi-

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mately one and a half million are scientists and engineers. This is about the same number we have in the United States among our five million college graduates. Also at the present time Russia is turning out each year from two to three times as many scientists and engineers as the United States. Dr. Teller of the University of California has stated that in his judgment what is happening now in education determines which of these two countries will be superior in science a decade from now.

To me the accomplishments in the field of education which Russia has made in a relatively short time are much more frightening than announcements that come from Russia concerning atomic or hydrogen bombs or guided missiles. From our point of view there is much one can criticize. There is no question, however, about the speed with which Russia has moved in the past and is now moving with its educational system. As much as we *dislike placing our educational developments in competition* with Russia, we have to be realistic.

We cannot afford to ignore the fact that Russia not only sees education of youth as important, it recognizes that importance through the development of its physical facilities, through thorough training, through the selection and support of students, and by making university professorships as attractive economically and socially as any type of work within the society. Faced with this picture, is it not time for us in the United States to re-examine our position and ask on the basis of the support we are providing: Do we make education as important as we say it is for the future of the country?

There is no lack of opportunity for learning among us. What is lacking is a respect for it—not the unctuous respect that trails its possessors with diplomas and titles but an honest respect such as we now have for technical competence or business success. We honor learning, but do not believe in it.

We reward it with lengthy obituaries and a wretched living wage. Rather than submit to it ourselves we hire substitutes; rather than cultivate our own brains we pick theirs. We spend as much time and energy on shortcuts to learning and imitations of learnings as we do on learning itself.

—A. Whitney Griswold, president of Yale University before the American Academy and National Institute of Arts and Letters, May 21, 1958

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WORLD EVENTS

By Scott Nearing

Defeating the Recession

United States economy is in the throes of a business recession which began in mid-1957 and is still continuing. Production has been declining for almost a year. A few happiness boys continue to wear huge badges on their lapels reading "Business is Good" and "Business is Wonderful." But most intelligent citizens are admitting that despite the boasted built-in economic stabilizers, the business cycle of boom-and-bust still functions. Even the President has ceased to be emotional about the matter and uses "recession" and "depression" without apologies.

Once the fact of recession was admitted and accepted, the next and obvious problem was what to do about it. Businessmen, in their own fields, have followed one major policy: intensified selling methods. Since the drive to sell began, early in the present century, to displace the drive to produce as the top-priority item in United States business circles, high pressure selling has been no novelty. In the present business crisis, the "you-auto-buy" drives launched in a number of communities have brought some results. If one may judge the matter from published reports, the increased sales have been made only after a disproportionate outlay for promotion. The promoters paid thirty-five cents to push for a fifteen cent can of beans.

More significant is the failure of these outbursts to reverse the trends which have dominated United States economy since the beginnings of the recession in mid-1957. Sales pressure is not an effective recession remedy since it had already been used to the limit during the boom. Witness the sales antics of the auto industry in 1954-1956.

Aside from stepped-up sales promotion, United States business leaders have reacted to the recession in several significant ways: They have (1) cut back projected capital expenditures; (2) reduced production schedules; (3) laid off workers; (4) lessened their inventories; and (5) generally held up prices, or even, in a few cases, advanced them. Every one of these five measures tended to intensify the recession.

Thus far United States private enterprise has not made a single proposal by means of which the economy itself could retard the recession or reverse it into a revival. If free enterprise has an anti-

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recession wonder drug, it has allowed a critical year to go by without using it on the harassed patient.

United States business leaders have made many "constructive" suggestions for countering the recession: (1) tax cuts, particularly on the rate of taxes paid by business concerns; (2) easier money and more abundant credit; (3) increases in government spending for civilian purposes; (4) higher war-spending. These proposals may be summarized in four words: let government do it. This is a political remedy for an economic ailment. It is like proposing that extensive tooth decay in American children, caused by excessive sugar consumption, should be dealt with by putting the deadly poison fluorine in all drinking water. Proposed remedies for the business slump do not deal with the causes of the economic downturn, but depend upon government intervention to save private enterprise economy from its own basic contradictions.

Actually the recession is the outcome of an amalgamation of government, business, and public relations which could be described not as "creeping fascism" but as "seven league fascism," since it is coming in seven league boots.

Business impotence and prostration in the face of economic recession and depression is nothing new. Developments from 1929 to 1930 paralleled those from 1957 to 1958. Economic semi-paralysis was treated by piling up deficits in the United States Treasury and shoveling the proceeds into the empty coffers of bankrupt business concerns. The Hoover policy of that period is matched by the current Eisenhower policy.

What ails the United States economy? It is planless and competitive. Result in the auto industry, with a capacity to produce more than 8 million units a year: the industry is selling at the rate of about half its productive capacity. The steel industry currently is producing less than fifty percent of capacity. Looking at the economy from another angle, that of the consumer, production in 1957 totalled around $440 billion; consumers bought $280 billion, leaving a gap of $160 billion of goods and services that must be disposed of outside of the producer-consumer relationship. So long as this gross imbalance between production and consumer spending persists, the economy will tend to slump first into periodic recessions, and later into a condition of chronic over-capacity with its inevitable accompaniment of chronically depressed areas and industries.

Capitalism Busts Again

Governor G. Mennen Williams of Michigan testified before a House Committee on April 22, 1958, that the unemployed in his state

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totalled 415,000. In the Detroit area the 248,000 unemployed comprise 16.3 percent of the labor force. By the end of May, the Governor reported, 79,000 Michigan unemployed workers will have exhausted their jobless compensation. The year's end will see from 145,000 to 190,000 jobless with exhausted compensation.

Governor Williams urged immediate and extensive relief by Congress.

Within the past four decades, billions of wealth have flowed from Detroit's auto factories—largely into private pockets. Most of the wealth has taken to itself wings and has flown away. Aside from a few noteworthy public buildings and some commonplace office and store structures, 1958 Detroit looks seedy and down-at-the-heel. Thousands of families have already left the city. Other thousands are on relief. Still other thousands do not know where they will get their next meal.

Booms have their good points. Busts are terrible.

Production Shift

Until a year ago the United States was still the world's center of auto production, with competitors trailing far behind. Now a shift is taking place. United States auto production for the early months of 1958 was about a third below the 1957 figure for the same period and not far from half of the 1955 auto production record.

Meanwhile several other auto production centers have scored spectacular increases in production. West Germany, Britain, France, and Italy are turning out automotive units at an annual aggregate rate of 4.4 million units. The output of the Soviet Union, Czechoslovakia, Poland, and East Germany is around 640,000 units a year. Japanese production is 225,000 units annually. West European cars find their best foreign market in the United States.

Up to the present time the volume of European cars marketed in the United States has been only a small percentage of total sales. But if American producers carry out their announced plans to make 1959 cars more costly to buy and more expensive to operate, if the recession in employment and in consumer buying power continues, and if the price level follows its upward trend, American-made cars will go to the "carriage trade" and the hoi polloi will "buy European."

As a footnote to this comment on changing trends in auto production and buying, it is worth remembering that more than 800,000 new 1958 United States cars are standing unbought in showrooms and car lots, while West European car producers are anywhere from a few weeks to a few months behind in filling their orders.

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Gag Law

Twelve hundred members of the American Newspaper Publishers Association, meeting in New York City on April 22, 1958, were treated to an interesting recital by a publisher from Burbank, California. The Burbank *Daily Review* had reported lay-offs in the nearby Lockheed plant. Local automobile dealers notified the *Review* that the publication of lay-off news compelled them to withdraw their advertising from the *Review,* apparently on the ground that bad news should not appear in print.

French police have been following a similar course—confiscating entire editions of Paris newspapers which printed unpleasant facts about the French-directed war against Algerian rebels.

Such episodes, if repeated, will compel apologists for the "free world" to pull down their shingle and replace it with one reading "gagged world."

Scarcity Comes High

Scarcity in an age of scarcity is easily maintained, at little or no cost. Perpetuating scarcity in an age of abundance is an expensive luxury.

Washington's devotees of a private, unplanned economy are smothering under surplus farm products. The remedy? Pay farmers not to use their land—to "take it out of production."

Senator Richard L. Neuberger of Oregon inserted in the Congressional Record on April 22, 1958, a list of 67 farm operators who received more than $50,000 each for holding land out of production in 1957.

Garvey Farms, Colby, Kansas, headed the list with soil bank payments of $278,187. Harris Ranches, of Arizona, came second with $209,701. Third on the list was Ray Flanagan, Red Top, California, with $138,122. Sutter Basin Corporation, Robbins, California, was fourth with $128,422.

The size of the payments is incidental. The significant fact is that in a world where hundreds of millions lack the necessaries, Uncle Sam is paying farmers not to produce foods and fibers which might feed the hungry and clothe the naked.

Nothing that the enemies of capitalism can say about the system speaks more loudly or decisively in favor of its liquidation than present United States bounties paid to farmers who will agree not to produce.

Police State

Cyrus S. Eaton, prominent Cleveland industrialist, said in a tele-

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vision interview on May 4, that freedom in the United States is threatened by "scores of agencies" which are investigating, snooping, informing. These activities, Mr. Eaton thought, had "enormously retarded" scientific developments in the country because scientists cannot do their best work while FBI agents are breathing down their necks.

"If you were to take the police forces of the cities, of the counties and of the state and governmental agencies and add them up, Hitler in his prime . . . never had any such spy organization as we have in this country today," Mr. Eaton said. He felt that United States leaders had less confidence in their own people "maybe than any nation that I know of on earth." The Cleveland business leader added that while the FBI had sold itself to the American people in a marvelous way, "I always worry when I see a nation feel that it is coming to greatness through the activities of its policemen."

Another War?

One of the questions most frequently asked us during a recent ten week coast-to-coast tour of the United States: "Will there be another war?"

Reuters (British) news agency answered the question circumstantially in a dispatch from Singapore, dated April 7, 1958. Between March 17 and April 7, 1958, Reuters reported, British, Australian, and New Zealand aircraft dropped 372,000 pounds of bombs and 200 rockets, while artillery pieces fired 23,000 shells into "suspected Communist supply dumps and hide-outs in Perak State, Northern Malaya." This is "the heaviest aerial bombardment of the ten-year-old Malayan jungle war."

News from North Africa, where the Washington-backed French government is maintaining an army of 550,000 to 600,000 for the purpose of "pacifying" Algeria and Tunisia, reports wholesale destruction and mass killing.

Question: "Will there be another war?"

Answer: There is!

Suicide Pact or Death Wish?

Living in an age of chronic disturbance and disorder, Western man has learned to take violence for granted. During the single generation which began in 1914, tens of millions of human beings have died violent and untimely deaths. Nations and even social systems have met a similar fate.

For a thousand years France has been one of the foremost po-

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litical factors in Europe. Since it collapsed under the Nazi attack in 1940, the French government has become a by-word for instability. In April, 1958, the Gaillard ministry lost a vote of confidence in the Chamber of Deputies. It was the third government to fall in ten months.

Following Nazi occupation and liberation in 1945, French ministries have come and gone in a monotonous succession. Neither a single political party nor a coalition of parties has been able to assume responsibility or to maintain its authority. Under the shadow of this political chaos, France has suffered defeat in Syria, Indo-China, Tunisia, Morocco, and Suez. For more than three years it has engaged in a ferocious conflict with Algerian rebels. Half a million French soldiers have been unable to win a decision in Algeria, partially because Frenchmen have been unable to decide the purpose of a war which is costing France's bankrupt treasury two billion dollars a year and leading to an inflation that has boosted prices 17 percent in the last 10 months.

Evidently France cannot win the Algerian war. As it drags on, month after month, the conviction seems to be growing (1) that the French Republic is bleeding to death economically and politically; (2) that France's fall may pull down the shaky structure of NATO; (3) that the resulting chaos may topple other unstable political coalitions in West Europe; (4) that the result of such a debacle may terminate the effective control of capitalism on the European continent.

Perhaps this sequence is too long for one historical episode. Who can say? History has moved fast and far since the drums beat and the bugles called Europeans to lay down their tools, seize their weapons, and begin a campaign of collective suicide in July, 1914.

Psychologists are not convinced that a group of nations can fall under the spell of a death-wish.

Historians are unable to say how consciously the Athenians and the Spartans, the Greeks and the Persians, the Romans and the Carthaginians, the French and the Germans, practiced the art of mutual destruction. But historians do insist that war has been the proximate cause leading to the overthrow of one civilization after another.

France played a major role in the 1914-1918 blood-letting, but only a minor part in the 1939-1945 orgy of destruction and mass murder. Since 1945, however, successive French governments have taken part in one costly military adventure after another as though animated by a subconscious mandate: perish now and bring down with you the European remnants of the Western civilization.

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FREEDOM OF CONSCIENCE

On May 19, the Supreme Court handed down its decision in the case of *Harry Sacher v. United States* reversing Mr. Sacher's conviction by a lower court of contempt of Congress for refusing to answer certain questions put to him by the Senate Subcommittee on Internal Security. This case is in some ways unique among the hundreds of witch-hunt cases of the last few years, for, so far as we know, Harry Sacher alone refused to answer questions about his politics solely on grounds of conscience and without invoking any amendment to the Constitution. Since the case has been largely neglected, even by the left-wing press, and since Harry Sacher's statement before the Senate subcommittee is one of which Americans can not only be proud but from which they can take heart, we publish below the key excerpt from the committee hearings. In doing so, we pay our respects to a man who has given us all a welcome and invigorating lesson in courage and principle.—The Editors.

MR. SACHER: Mr. Chairman, for 30 years I have practiced law in the State of New York and elsewhere in the United States, and I think again, without being subject to the charge of being immodest, that I have done a yeoman's share of the work that had to be done on behalf of the working men and women of our country. And I feel that my life is a living testimonial to what I am and to what I have done for my country, and I respectfully submit that it is a late time of the day for me to have to appear before anybody, after 30 years of honorable practice, to testify to my loyalty to the democratic institutions of the United States, and I unswervingly and unhesitatingly tell you my devotion is to the best interests of my country. And I believe I am serving those interests when I refuse to bend the knee to an inquiry concerning my innermost thoughts and beliefs, whether they be on politics, religion or anything else. My conscience dictates to me that I shall not, under compulsion, answer today any more than freeborn John Lilliburn answered in the 1640's to the Court of Star Chamber and on the same grounds, Mr. Chairman, on the grounds that it is incompatible with the dignity of the individual to make compulsory disclosure of his thoughts and his ideas and his beliefs, I must respectfully decline to answer that question.

SENATOR MCCLELLAN: You have a right to decline, of course, if you wish to invoke your constitutional privilege.

MR. SACHER: I am invoking my rights as a man and my dignity as a man and I am not invoking any privileges against self incrimination. I have never done anything and I pledge you, Mr. Chairman, I shall never do anything which, so far as I can help, will expose me to any criminal charges.

And I say to you that I speak not from fear of incrimination

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or prosecution. I speak only from the dictates of conscience. And I ask all Americans to join me in resisting inquiries of this kind, for when the day comes when Americans will resist inquiries of this kind, we shall once again witness a restoration of those liberties which we so long enjoyed prior to the advent of the suppression of them.

(*continued from inside back cover*)

care! Only remember that in 1925 when the French government suppressed a Moroccan revolt, the whole working class went on strike, while in 1958, when our planes killed 80 women and children in Sakiet, no union, no worker, not one factory did anything to protest against it. The people will pay more and more taxes, they will gladly accept any further sacrifices, even damnable crimes like Sakiet, provided the French flag remains in Africa. This is a complete victory of the bourgeoisie and mystification over people and consciousness. We live in a desert of indifference and apathy. If this terrible state of affairs is going to last, in a few years we shall be not only isolated but fascists." We hope with all our hearts that by the time these words are in print events will have proved our correspondent too pessimistic. We will not conceal, however, that we view the situation with the deepest foreboding.

The Palo Alto Peace Club puts out a small but excellent monthly publication entitled *Flashlight* which should be of interest—as stimulant or model or both—for other peace groups around the country. If you would like to receive it, send 10 cents for one copy or $1 for 20 copies to Flashlight, P.O. Box 205, Palo Alto, California.

It is good to be able to report that a committee consisting of C. B. Baldwin, Elmer Benson, W. E. B. DuBois, Vincent Hallinan, Florence Luscomb, Eslanda Goode Robeson, and Hugh DeLacy as Chairman—has been set up to help Fred and Marie Haug and the other convicted defendants in the Cleveland Taft-Hartley conspiracy case to carry their appeals to the higher courts. This is a crucially important case from both labor and civil liberties points of view; it deserves whatever support, financial or otherwise, you can give. Checks, money orders, or requests for information should be addressed to Hugh DeLacy, Chairman, P.O. Box 2461, East Cleveland Station, Cleveland 12, Ohio.

Here are two compliments which we value highly and would like to share with our readers: The first comes from a medical scientist who is engaged in intricate and important physiological researches: "I should like to congratulate you on your recent [April] cogent analysis of the FCC scandal, including the presentation of data concerning the radio and TV industries. Your thesis and conclusions are presented with an irrefutable logic seldom seen even in a scientific journal (I mean, of course, the physical sciences)." The second comes from one of the country's leading political scientists and experts on international affairs: "Permit me to extend renewed congratulations to you on the *Monthly Review*. I find each issue enormously stimulating and informative, as do all of your readers, I am sure."

Social note heard on our radio: "A Texan bought his dog a boy for his birthday."

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YOU CAN WIN

AN ORIGINAL ROCKWELL KENT OIL PAINTING AND HELP ELIMINATE THE UN-AMERICAN ACTIVITIES COMMITTEE

The Emergency Civil Liberties Committee is offering a magnificent prize to the person who submits the best slogan telling why Congress should stop its unconstitutional practice of compelling testimony concerning the beliefs, expressions, and associations of witnesses called before its committees.

The most important step to protect our Bill of Rights is to abolish the committees of Congress that do not respect the individual rights of citizens. A new Congress will be elected this fall and every effort should be made to acquaint the candidates with the support that still exists for the Bill of Rights.

THE PRIZE

The original oil painting by Rockwell Kent is 28 *inches high and* 34 *inches wide—a beautiful picture of Sunburst Lake in British Columbia. It is valued at* $1,500.

THE RULES ARE SIMPLE

The contest is open to all Associates of the Emergency Civil Liberties Committee. ECLC has as its sole purpose the maintenance of the U. S. Constitution. If you are not already an Associate you can become one by sending in $5. In return you will receive RIGHTS and other publications of the committee.

The slogan must be delivered in the office of the Emergency Civil Liberties Committee, 421 Seventh Avenue, New York 1, N. Y. not later than 5 P.M. of September 2, 1958.

The slogan must contain no more than fifteen words.

The judges will be selected by the Emergency Civil Liberties Committee and their decisions will be final.

Your slogan should be accompanied by a written statement that ECLC may freely use and print your slogan.

LITERATURE AVAILABLE

"For Abolition of the Inquisitorial Committees of Congress" a pamphlet by Harvey O'Connor, Chairman of ECLC—5 cents.

Reprint of the famous Watkins decision by the Supreme Court—25 cents.

"Operation Abolition" the reply by the UnAmerican Activities Committee. (You can probably get this free by writing to your Congressman but if you write to the Government Printing Office you can get it for 10 cents.)

THE EMERGENCY CIVIL LIBERTIES COMMITTEE

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(*continued from inside front cover*)

San Francisco Bay Area subscribers please take note: During July and August on Monday and Tuesday evenings, you can dine at Ed Brown's Pot Luck Restaurant in Berkeley and pay your bill (excluding wine) with a check made out to MR. This is an opportunity for you to get to know (or to know better) a first-rate restaurant and at the same time to provide financial support for MR at no extra cost to your own pocketbook.

A pleasant aftermath of the Sweezy case occurred in April when the American Association of University Professors, meeting in Denver, announced its first Alexander Meiklejohn Award for Academic Freedom was going to the University of New Hampshire for allowing Sweezy to speak on the campus (at the invitation of a student organization) in May of 1956 at a time when he was still under jail sentence for refusing to answer questions in the New Hampshire investigation of "subversion." The meeting was violently opposed by powerful interests in the state, including many leading politicians, and it was for resisting their pressure that the UNH was honored. Governor Lane Dwinnell and Attorney General Louis Wyman, running true to form, promptly denounced the award and the trustees of the University for accepting it. On the other hand, reports from UNH indicate that both faculty and students were deeply gratified by the honor bestowed on their institution by the AAUP. In the past the AAUP has had to censor all too many universities and colleges for violating academic freedom; UNH has the distinction of being the first to be specially cited for upholding it.

In this connection, it may be of interest to our readers to learn that Paul Sweezy will be teaching two courses at Cornell summer school on business cycles and public regulation of business.

A San Francisco reader writes: "I did just what your circular suggested, 'Lend a friend a copy of the magazine.' A few days later he returned the magazine and said he must subscribe for it pretty quick. I told him I would do it for him and he could pay me later. He appreciates very much the opportunity to get *The Great Road* and a year's sub both for $4." Remember that this offer applies to all *new* subs. We would like to see many more readers take advantage of it to build circulation.

Another San Francisco reader offers to pay for up to 50 subscriptions for any college or university library that will write in to us on its official stationery asking for a year's sub to MR. Ten of these subs may go to foreign countries. We will fill these requests on a first-come-first-served basis.

As we go to press, the political situation in France is equivocal in the extreme, the outlook grim. A perceptive observer, writing from Paris the very day of the coup in Algiers, provides the following somber account of the public mood in France: "Paris is lovely just now. . . . Alas, our political situation is far from being so delicious. . . . Everything is rotten, slowly perverted by this bloody Algerian war. But there is nothing to do. The French are neurotic about this. I told you before that 80 percent of the population—including workers and some Communists—are absolutely certain the country will die as soon as Algeria is free. Therefore, this war will have no end unless some dreadful catastrophe happens, either financial or diplomatic. I went to a lot of meetings these past few weeks, and we signed manifestos, letters to politicians, and so on. Silence. I am sorry to admit that we are only a few people who clearly realize how dangerous this situation has become, especially owing to the increasing military and fascist power. But the rest just don't

(*continued on page* 63)

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What they say about

THE WALL BETWEEN

By ANNE BRADEN

This is a most remarkable story, written by a woman who has achieved an amount of objectivity which is extraordinary under the circumstances. . . . It must take great courage to follow one's own beliefs and principles under present day conditions in certain areas of our country ,and to have the story told in such a straightforward and convincing manner is a contribution to the understanding of all the people of the country.
I hope this book is widely read.

—ELEANOR ROOSEVELT

Anne Braden's book THE WALL BETWEEN is an exciting "blow-by-blow" description of what goes on beneath the surface when we talk about race relations. It reads almost like a detective story, and demonstrates the saying that "Truth is sometimes stranger than fiction.". . .

—BISHOP W. APPLETON LAWRENCE, Episcopal Church, Cambridge, Mass.

Anne Braden's THE WALL BETWEEN goes more deeply than any work I know into the central problem of our generation—how to achieve ethnic democracy. . . . Anyone who cares about human brotherhood as more than an idle abstraction must give himself the tremendous experience of reading these pages.

—STEPHEN H. FRITCHMAN, Minister, First Unitarian Church of Los Angeles

I think it is the best book on the South since the Court declared the Separate but Equal Doctrine unconstitutional. The author has rare ability as a portrayer of what takes place inside of people. Her book has the flavor of Balzac and the carefulness of Commager. If I could afford to I would like to put this book in the hands of ten ministers in every county in the deep South. If they would read it, it might convict them of the sin of silence and galvanize them into some sort of action.

—AUBREY WILLIAMS, formerly Administrator of the National Youth Administration, now publisher of the *Southern Farm & Home*

Anne Braden's book is required reading for anyone seeking clarity on the subject of race relations. As you read it you experience every event almost as directly as the people involved, and your own thoughts of "How would I have reacted?" are a running commentary. . . . . It is a lasting contribution—one which will move people to thought and action today, and be used as a reference work tomorrow.

—JUDGE HUBERT T. DELANY

This is an excellent, simple narrative of a family dedicated to our claim that "all men are created equal" and finding that their Louisville, Kentucky, neighbors all too often took these words as meaningless platitudes. . . . It is extremely well told and makes fascinating reading. It is a very timely story and for this reason should have a wide acceptance.

—CLARENCE E. PICKETT, Executive Secretary Emeritus, American Friends Service Committee

. . . by all odds the most enlightening and the most helpful approach to race relations in print. . . . It is an absorbing volume by a writer of outstanding talent. It will be read for its sheer drama, as Uncle Tom's Cabin was read. Notwithstanding and, more likely, BECAUSE of its appeal to ordinary readers, it will endure for decades as an outstanding contribution to sociology. It is *magnificent autobiography.*

—DR. CLYDE R. MILLER, Founder of The Institute of Propaganda Analysis

THE WALL BETWEEN is a most authentic expression of experiences in the deep South, as told by a white woman reared in the mores and customs of the region. . . .

—SEPTIMA P. CLARK, Education Director, Highlander Folk School

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